

FEDERAL GRANT OPPORTUNITIES

updated 07/02/09

new opportunities or changes highlighted

Open grants & deadlines:

- **Industrial Energy Efficiency Grand Challenge** *(June 15, July 14)*
- **Wind Energy Consortia between Institutions of Higher Learning & Industry (Wind & Hydropower Technologies Program)** *(June 29, July 29)*
- **Minority University Research Associate Program** *(July 13)*
- **Deployment of Combined Heat & Power (CHP) Systems, District Energy Systems, Waste Energy Recovery Systems, & Efficient Industrial Equipment** *(July 14)*
- **Net-Zero Energy Commercial Building Initiative Supporting Consortium** *(July 14)*
- **Large Wind Turbine Drivetrain Testing Facility** *(July 15, August 6)*
- **Geothermal Technologies Program: Ground Source Heat Pumps** *(July 16 & August 6)*
- **Smart Grid Investment Grant Program** *(July 16, August 8; October 23, November 4; February 10, March 3)*
- **Enhanced Geothermal Systems (EGS) Component Research & Development Analysis** *(July 17)*
- **New Era Rural Technology Competitive Grants Program** *(July 20)*
- **Energy Efficient Information & Communication Technology** *(July 21)*
- **Climate Showcase Communities** *(July 22)*
- **Regional Sequestration Technology Training** *(July 22)*
- **Geothermal Technologies Program** *(July 22)*
- **Hydroelectric Facility Modernization** *(July 22, August 20)*
- **Clean Coal Power Initiative – Round 3** *(July 24, August 24)*
- **Solar Market Transformation – Solar Workforce Development** *(July 30)*
- **High Penetration Solar Deployment** *(July 30)*

- **Enhanced Geothermal Systems (EGS) Demonstration** *(July 30)*
- **Rural Energy for America Program/Renewable Energy Systems/Energy Efficiency Improvement Program** *(July 31)*
- **Renewable Energy Feasibility Grants** *(July 31)*
- **Carbon Capture & Sequestration from Industrial Sources & Innovative Concepts for Beneficial CO₂** *(August 7)*
- **Solid-State Lighting Core – Round VI** *(August 10)*
- **Geologic Sequestration Training & Research** *(August 11)*
- **Resource Assessment & Interconnection Level Transmission Analysis & Planning** *(August 14)*
- **Advancing Public Health Protection through Water Infrastructure Sustainability** *(August 17)*
- **Solid State Lighting Product Development – Round IV** *(August 17)*
- **Advanced Energy Efficient Building Technologies** *(August 18)*
- **Solid State Lighting U.S. Manufacturing – Round I** *(August 24)*
- **Building America Energy Efficient Housing Partnerships** *(August 24)*
- **Topical Collaborations in Nuclear Theory** *(September 1)*
- **Training Program Development for Commercial Building Equipment Technicians, Building Operators, and Energy Commissioning Agents/Auditors** *(September 1)*
- **Energy Training Partnership Grants** *(September 4)*
- **Systems Level Technology Development, Integration, & Demonstration for Efficient Class 8 Trucks (SuperTruck) and Advanced Technology Powertrains for Light-Duty Vehicles (ATP-LD)** *(September 9)*
- **Pathways Out of Poverty** *(September 29)*
- **Green Your School** *(October 9)*
- **Solar America Cities Technical Outreach** *(October 15)*

Industrial Energy Efficiency Grand Challenge

FOA # DE-FOA-0000113

- Letter of intent due June 15, 2009
- Application due date: July 14, 2009
- \$5 million available in FY 2009; \$10 million available in FY 2010
- \$100,000 floor; \$300,000 ceiling
- Cost share no less than 20% of total Concept Definition study cost
- 50 expected awards
- Duration: 1 year
- See <http://www.fedconnect.net/> for additional information
- Eligible applicants (*note: teaming strongly encouraged*): large and small companies, academia, trade organizations, research organizations
- Purpose: to fund cost-shared development of transformational industrial processes and technologies that reduce the energy intensity (million Btus per unit system output) or greenhouse gas emissions (carbon equivalent) of the system by 25% while providing a return on investment of 10% or more
- Goal: to cost-effectively improve energy efficiency of U.S. economy
- FOA seeks Concept Definition (Stage 2) projects. Per DOE, concept definition involves early stage research needed to explore and define technical concepts and may include laboratory scale experiments, exploration of fundamental science concepts associated with technology, data generation, and analysis
- Project should indicate how technology will eventually fit into commercial markets
- *Topic Area 1: Next Generation Manufacturing Concepts*
 - Entirely new manufacturing concepts to potentially replace conventional manufacturing processes
 - Study will focus on specific, promising technologies that offer the potential for major energy, carbon, and economic benefits
- *Topic Area 2: Energy Intensive Processes*
 - Must address specific technology areas that are expected to generate large energy-saving benefits
 - 4 technology areas expected to generate large energy-saving benefits
 1. Reactions and separations
 2. High temperature processing
 3. Waste heat minimization and recovery
 4. Sustainable manufacturing

- *Topic Area 3: Advanced Materials*
 - Study to focus on specific, promising industrial materials technologies that offer potential for major energy, carbon, and economic benefits in two areas
 1. Thermal and degradation resistant materials
 2. Materials for energy systems
- *Topic Area 4: Industrial Greenhouse Gas Emissions Reduction*
 - Transformational technologies that address carbon intensity reductions and absolute carbon reductions

ARRA – Wind Energy Consortia between Institutions of Higher Learning & Industry (Wind and Hydropower Technologies Program)

FOA # DE-FOA-0000090

- Letter of intent due June 29, 2009
- Application due July 29, 2009
- Mission: “Responsible stewardship of national resources to increase the development and deployment of reliable, affordable, and environmentally sustainable wind and water power and realize the benefits of domestic renewable energy production”
- \$24 million available; \$12 million available for 1st year of funding
- \$8 million floor; \$12 million ceiling
- 10% cost share required
- 2 year period of performance
- Eligible applicants: Consortia led by institution of higher learning
 - Must include at least one four-year institution that has at least one engineering program accredited by ABET
 - Turbine location must have Power Class 3 at 50 meters and above wind resources and be within 50 miles of university
- Additional information at <http://www.fedconnect.net/>
- *2 areas, but not separate topics*
 1. Partnerships for Wind Research and Turbine Reliability
 - Universities in Power Class 3 at 50 meters or greater wind region with consistent wind resources throughout year are encouraged to team with industry partners to establish facilities/equipment and research agenda necessary to study major challenges facing the wind industry
 - Address 1 or more challenges in 20% Wind Energy by 2030 report and describe how wind hardware and software will be acquired
 - Research in turbine reliability is encouraged
 2. Wind Energy Research & Development
 - University research & development to advance material design, performance measurements, analytical models, and leveraging partnership with industry to improve power systems operations, maintenance or repair operations, wind turbine and/or component manufacturing, and interdisciplinary system integration
 - Universities encouraged to partner with wind industry in defining R&D agenda, curriculum, and intern partnership

Minority University Research Associate (MURA) Program

Funding Opportunity Announcement # DE-FOA-0000089

- Application due date: July 13, 2009
- \$600,000 available for grants in FY 2009, and \$1.2 million in FY 2010 – FY 2011
- \$20,000 floor, \$300,000 ceiling
- 3 year period of performance
- Cost share: 20% of total allowable costs for research & development projects
- Eligible applicants: restricted to accredited, domestic colleges and universities defined as Minority Serving Institutions
 - Per US Department of Education, Accredited Post Secondary Minority Institutions (from IPEDS Spring 2007 Survey from Fall Enrollment 2006), in Indiana, this includes Martin University and Calumet College of Saint Joseph, Whiting
- MURA program is a research program that encourages minority students to pursue careers in science and technology
- All areas of solar energy technology-related research are of interest, including, but not limited to:
 - Studies of photovoltaic materials and devices
 - Concentrating solar power technologies
 - Manufacturing issues of solar components and systems
 - Measurements and testing
 - Studies of applications, markets, market development, and impacts of solar systems
- May include experimental work, including:
 - Lab studies
 - Designing, building, and testing of systems
 - Market, policy, and economic studies
 - Curriculum development for middle school, high school, or college level renewable energy education
- Applicants must address the advancement of the student's knowledge of renewable energy technology, specifically solar technology, and encourage students to pursue advanced degrees and/or a career in renewable energy

ARRA – Deployment of Combined Heat & Power (CHP) Systems, District Energy Systems, Waste Energy Recovery Systems, & Efficient Industrial Equipment

Funding Opportunity Announcement # DE-FOA-0000044

- Application due date: July 14, 2009
- \$156 million available
- 5-30 awards
- Performance period of 1-3 years
- See <http://www.fedconnect.net/> for additional information
- Eligible applicants: All except federal agencies, federally-funded Research & Development Center contractors, and non-profit organizations as described in 501(c)(4) in Internal Revenue Code of 1986 that engaged in lobbying activities after December 31, 1995

- *Area 1: Combined Heat & Power*
 - \$1 million floor
 - Cost share of 50%, but as low as 25% could be considered
 - Generation of electric energy and heat in a single, integrated system, with thermal efficiency of 60% or more on higher-heating value basis
 - Grant for deployment of commercially-available CHP technologies
 - May include single or multiple installations at multiple sites
 - Should replace an inefficient existing system, with at least 25% efficiency increase when compared to the system being replaced, or system should not have existed previously

- *Area 2: District Energy Systems*
 - \$10 million floor
 - 1-4 expected awards
 - Cost share of 50%, but as low as 25% could be considered
 - District Energy Systems: systems providing thermal energy from renewable energy sources, thermal energy source, or highly efficient technology to more than 1 building or fixed energy consuming use from 1 or more thermal energy production facilities through pipes or other means to provide space heating or conditioning, hot water, steam, compression process energy
 - Grant for deployment of commercially available district energy system technologies
 - May include single or multiple installations at multiple sites
 - For new district energy systems where technology previously didn't exist or for the replacement of an inefficient system
 - Minimum 60% efficiency for system
 - If a replacement, should have at least 60% efficiency and represent a 25% efficiency increase compared to the replaced systems

- *Area 3: Waste Energy Recovery*
 - \$500,000 floor
 - 5-30 expected awards
 - Cost share of 50%, but as low as 25% could be considered
 - Waste Energy Recovery: Collection and reuse of energy from sources such as exhaust heat or flared gas from any industrial process: waste gas or industrial tail gas that would otherwise be flared, incinerated, or vented; a pressure drop in any gas, excluding any pressure drop to a condenser that subsequently vents the resulting heat
 - For commercially available waste energy recovery technologies
 - May include single or multiple installations at multiple sites
 - Limited to new integrated waste energy systems where similar systems didn't exist or for the replacement of an inefficient existing system
 - New systems must have a minimum efficiency of 30%
 - Replacement systems must have a minimum of 30% efficiency, with a 25% increase over the replaced system

- *Area 4: Efficient Industrial Technology*
 - \$10 million floor
 - Expected 1-8 awards
 - Cost share: 50%
 - Any proven, commercially-available technology
 - Grant for the deployment of technologies and systems with a minimum efficiency improvement of 25% into industrial sector
 - Required bundling of multiple projects
 - Project sized to exceed \$10 million total project value

Net-Zero Energy Commercial Building Initiative Supporting Consortium

FOA # DE-FOA-0000105

- Application due by July 14, 2009
- \$1 million available; 1 expected award
- Minimum \$250,000 cost share
- Eligible applicants: All except federal agencies, federally-funded Research & Development Center contractors, and non-profit organizations as described in 501(c)(4) in Internal Revenue Code of 1986 that engaged in lobbying activities after December 31, 1995
- Intended to establish a Supporting Consortium (SC) with a main focus of participation by vendors and original equipment manufacturers (OEMs) for commercial building technologies and applications noted in EISA Section 422
- Overarching goal is to collect information on current and next generation technology for individual components and systems to provide a knowledge base of information to industry in supporting DOE's goal of establishing net-zero energy performance for all U.S. commercial buildings by 2050
- Emphasis on retrofits
- Visit <http://www.fedconnect.net/> for additional information, including a list of representatives, target markets, and project tasks to be utilized or completed

ARRA – Large Wind Turbine Drivetrain Testing Facility

Funding Opportunity Announcement # DE-FOA-0000112

- Notice of Intent due by July 15, 2009
- Application due by August 6, 2009
- Grant for the design and construction of a large dynamometer facility for testing 5 to 15 MW rated drivetrains
- Facility can be a new system or a modification of an existing building suitable for a dynamometer test stand
- DOE envisions the facility will have space for permanent staff, visitors, conference rooms, a lunch room, restrooms, and computer stations
- Applicants must submit detailed multi-phase plans, including concept designs, preliminary designs, engineering procurement, construction contract management, and operation maintenance
- Eligible applicants
 - Primary applicant must be a state or local government, university, or non-profit
 - Must include organizational participants from the state and a university
 - Industry involvement is not required, but allowed
 - Potential end-users of the facility may not partner (conflict of interest)
- Applicants must demonstrate capabilities and experience in:
 - Drivetrain testing
 - Business management and operation of industrial facilities
 - The ability to develop a self-sustaining, end-user facility for benefit of the nation
- Consideration will be given to the facility's geographic location relative to sea ports and rail access
- DOE anticipates awarding a single \$45 million grant
- Cost share of 35% of total project cost, or 25% with justification from the applicant
- Period of performance of five years, with DOE share spent within three years
- Visit <http://www.fedconnect.net/> for additional information

ARRA – Geothermal Technologies Program: Ground Source Heat Pumps (GHP)

Funding Opportunity Announcement # DE-FOA-0000116

- Notice of Intent due by July 16, 2009
- Application due date: August 6, 2009
- \$50 million available
- See <http://www.fedconnect.net/> for additional information
- Greater consideration will be given to applicants with more aggressive completion schedules, that create more jobs, that have a greater cost share, and show cooperation between industry, education, and/or Indian tribes
- Eligible applicants: State and local governments, higher education, non-profits, for-profit private entities, Indian Tribes, and Tribal Energy Resource Development organizations or groups

- *Area 1: Technology Demonstration Projects*
 - Ceiling of \$5 million
 - Minimum cost share of 50%
 - Up to 10 awards
 - Performance period of 5 years
 - For mid- to large-scale (50-100 tons heating and/or cooling) cost-shared technology demonstration projects that incorporate innovative business and financing strategies and/or technical approaches designed to overcome commercialization barriers that exist for GHPs
 - Includes data gathering and analysis

- *Area 2: Data Gathering & Analysis*
 - Ceiling of \$250,000
 - Minimum cost share of 20%
 - Up to 8 awards
 - Performance period of 1 year
 - For research papers related to system costs, performance, and installation techniques which will provide insights into lowest life-cycle cost applications for GHPs and assist customers in determining project feasibility
 - Should collaborate with industry, academia, and National Laboratory partners
 - Should model system performance and cost benefits for system design and applications for small residential to large heating systems

- *Area 3: National Certification Standard*
 - Ceiling of \$3 million
 - No cost share
 - Up to 3 awards
 - Performance period of 5 years
 - To create a national certification standard for GHP industry
 - Should increase consumer confidence, reduce potential for improperly-installed systems, and assure quality
 - Should solicit information from industry stakeholders, manufacturers, and trade organizations

Smart Grid Investment Grant Program

FOA # DE-FOA-0000058

- Letter of intent due date (required for each phase in which an applicant intends to submit an application) and application due date:
 - Phase 1: July 16, August 6
 - Phase 2: October 23, November 4
 - Phase 3: February 10, March 3
- Funding
 - \$3.4 billion expected to be available
 - 2 categories to be funded:
 - Smaller projects in which the federal share is in the \$300,000 to \$20 million range (40% of SGIG funding)
 - Larger projects in which federal share is in the \$20 million to \$200 million range (60% of SGIG funding)
 - Minimum 50% cost share required
- 3 year period of performance
 - DOE expects to complete award of projects by September 30, 2010 and to make awards in October 2009, March 2010, and June 2010
 - Costs of awards must be invoiced and paid by September 30, 2015
- Eligible applicants
 - Electric power companies (investor-owned utilities, municipal utilities, public utility districts, electric cooperatives, regional organizations such as independent system operators, transmission organizations, and national-level utility organizations), state, county, local, or municipal government agencies, universities and colleges, electricity consumers singly or aggregated together (residential, commercial, industrial, and agricultural customer classes), appliance manufacturers, electrical equipment manufacturers, software providers, and commercial and information services providers, and other private companies (retail electricity suppliers, energy services companies, independent power producers, demand response services providers, metering services providers, project developers, electricity marketers, consultants)
 - Federal agencies, including power marketing administrations, TVA, and USPS are eligible in supporting roles only
 - DOE's national laboratories and FFRDCs are ineligible

- Purpose of program: to accelerate the modernization of the nation's electric transmission and distribution systems, and to promote investment in smart grid technologies, tools, and techniques which increase flexibility, functionality, interoperability, cyber-security, situational awareness, and operational efficiency; to enable measurable improvements from accelerated achievement of a modernized electric transmission and distribution system, including:
 - Reliability of the electric power system
 - Electric power system costs and peak demand
 - Consumer electricity costs, bills, and environmental impacts
 - Clean energy development and greenhouse gases
 - Economic opportunities and new jobs
- Topic areas:
 - Equipment manufacturing
 - Customer systems
 - Advanced metering infrastructure
 - Electric distribution systems
 - Electric transmission systems
 - Integrated and/or crosscutting systems
- Eligible projects are required to support or advance one or more of the smart grid functions as listed in EISA Section 1306 (d)
- For eligible investments for SGIG funds, see EISA, Section 1306 (b)
- For non-eligible investments, see EISA, Section 1306 (c)
- Visit <http://www.fedconnect.net/> for additional information

ARRA – Enhanced Geothermal Systems Component Research & Development Analysis

FOA # DE-FOA-0000075

- Application due by July 17, 2009
- \$56 million available
- 20-30 expected awards
- Ceiling based on topic areas
- 1-3 year performance period
- Funds to find cost-effective creation, management, and utilization of EGS in reservoir environments
- Programs to establish critical energy, environmental, and economic baseline information needed in 23 target areas
- See <http://www.fedconnect.net/> for additional information

New Era Rural Technology (RTP) Competitive Grants Program

CSREES Funding Opportunity # USDA-CSREES-RTP-002295

- Application due: July 20, 2009
- Visit <http://www.usda.gov/> for additional information
- Total of \$750,000 available
 - May request up to \$125,000 for a Regular Project Proposal
 - May request up to \$300,000 for a Joint Project Proposal
 - May request up to \$10,000 for a Conference/Planning Grant
- Project period of 18-36 months
- Eligible applications must be submitted by either public or non-profit community colleges or advanced technological centers that must:
 - Be in a rural area
 - Be in existence as of July 18, 2008
 - Participate in agriculture or bioenergy research and applied research
 - Have a proven record of development and implementation of programs to meet the needs of students, educators, business, and industry
 - Have the ability to leverage existing partnerships and occupational outreach and training programs for secondary schools, four-year institutions, and relevant non-profits
- RTP grants for technology development, applied research, and/or training to develop an agriculture-based renewable energy workforce to serve rural communities
- *Technology Development, Applied Research, and/or Training Need Areas*
 - *Curricula Design and Materials Development*
 - Develop new or adapt existing technology, applied research, or curricula culminating in either an academic degree or certificate of completion to meet challenges anticipated for specific bioenergy, pulp and paper manufacturing, or agriculture-based renewable energy workforce opportunities critical to rural communities
 - *Faculty Preparation and Enhancement for Teaching*
 - *Delivery Systems*
 - Encourages development and use of alternative methods of delivering technology, applied research, or instruction to help increase the number of graduates with either an academic degree or certificate of completion to meet changes for bioenergy, pulp and paper manufacturing, or agriculture-based renewable energy workforce opportunities
 - *Student Experiential Learning*
 - *Conference/Planning Grants*

ARRA – Energy Efficient Information & Communication Technology

FOA # DE-FOA-0000107

- Application due: July 21, 2009
- Ceiling: \$10 million
- \$50 million available for new awards
- 5-15 expected awards
- 1-2 year performance period, depending on topic area
- Goal: To develop new technologies to dramatically improve energy efficiency in information, communications technology (ICT) with emphasis on new technologies that can be commercialized within next 3-5 years, and to demonstrate through field testing highly energy efficient, emerging technologies that are ready for or are in the initial state of commercial introduction
- See <http://www.fedconnect.net/> for additional information
- *Area 1: Concept Definition Studies for Energy Efficient Information and Communications Technology*
 - Technologies considered for Concept Definition Studies must be at Stage 2 as defined by *ITP Stage-Gate Innovation Management Guidelines*
 - Focus on specific, ICT technology that offers potential for major energy, carbon, and economic benefits
 - Must identify how technology will eventually fit into commercial markets
 - Will identify technical barriers and critical R&D paths for developing a commercial application or product that addresses a significant market opportunity
 - Study should address technology applicable to one of three categories
 1. Equipment and software
 2. Power supply chain
 3. Cooling
- *Area 2: Information & Communications Technologies R&D for Energy Efficiency*
 - Proposals in three areas:
 1. Equipment and software
 - Develop all-optical systems to increase energy efficiency
 - Advance ultra-low power circuits
 - Utilize ultra-efficient nano-electronic circuitry
 - Create hardened electronic equipment which can withstand temperature, humidity, and particulate conditions outside boundary of current generation electronics

2. Power Supply Chain (R&D proposals may address the following)
 - Research and develop high-efficiency power conversion circuits which optimize server-based data center and telecommunication equipment
 - Develop special purpose chips, multiphase clocking, lower-power chips
 - Research use of optical switching
 - R&D of superconducting components
 - Efficiency optimized control systems for power conversions
 3. Cooling – cooling of server-based telephone central offices and data centers can be made more energy efficient through:
 - Creating advanced component level cooling technologies
 - Develop mitigation techniques to reduce probability of failures associated with “free” cooling
 - Identify and create effective uses of low-quality waste heat generated
- R&D applicants must be organizational participants capable of and experienced in:
 4. Research
 5. Manufacturing the technology proposed
 6. Bringing technology to end user through sales and marketing
 7. Serving as an end user of technology proposed
 - R&D project to be funded for two years
- *Area 3 – Demonstration & Field Testing of Highly Energy Efficient & Emerging Technologies for Data Center or Telecommunications Use*
 - For field testing and independently validating the energy performance of emerging technologies that show potential to improve energy efficiency while not compromising data center or telecommunications reliability
 - Applicant must show plan for technologies to be demonstrated and the adoption of other best energy management practices to improve a data or telecommunication center’s energy intensity performance by more than 25% and have a data center infrastructure efficiency of 0.80 or greater
 - New and innovative technologies that are not widely commercial and improve parts of a data center or telecommunications facility to be considered:
 - IT optimization
 - Energy efficient electrical power distribution and supply
 - Energy efficient cooling schemes
 - Distributed generation or alternative power technologies

Climate Showcase Communities

RFA # EPA-OAR-CPPD-09-08

- Informal letter of intent due by July 1, 2009 (optional)
- Application due July 22, 2009
- Total funding: \$10 million
- 20-30 cooperative agreements
- Project period to begin January 1, 2010, for period up to three years
- Eligible entities:
 - Local governments: county, municipality, city, town, township, local public authority, school district, intrastate district, council of governments, any other regional or interstate government entity, or any agency or instrumentality of a local government
 - Federally-recognized Indian tribal governments and intertribal consortiums
- 50% match required, in form of cash or as in-kind contributions for local governments only
- Funding for planning, demonstration, and/or implementation projects designed to address climate change by reducing greenhouse gas emissions
- Must address one or more priority areas:
 - Energy performance in municipal operations
 - Energy performance in residential, commercial, agricultural, aqua-cultural, and/or industrial buildings
 - Land use, transportation, or community master planning
 - Reduction of vehicle miles traveled
 - Solid waste management
 - Agricultural, aqua-cultural, and natural resource management
 - Use or supply of green power products, on-site renewable, and other clean energy supply options
 - Heat island management
 - Removal of barriers for greenhouse gas management, through development of effective programs, policies, or outreach
- Applications should:
 - Achieve ongoing greenhouse gas reductions
 - Build capacity within local and tribal agencies to address greenhouse gas emissions
 - Build and leverage partnerships across multiple stakeholder groups
 - Link climate change initiatives with broader environmental, economic, health, and social co-benefits
 - Link funded activities to broader climate management
 - Create models of success that are broadly replicable
- Visit <http://www.epa.gov/air/grants/09-08.pdf> for additional information

ARRA – Regional Sequestration Technology Training

FOA # DE-FOA-0000080

- Application due July 22, 2009
- Expected \$6,790,000 available; 7 expected awards
- \$500,000 floor; \$995,000 ceiling
- Cost share encouraged, but not required
- Eligible applicants: all domestic entities except federal agencies, Federally Funded Research and Development Center Contractors, and non-profits as described in section 501(c)(4) of Internal Revenue Code of 1986 that engaged in lobbying activities after 12/31/95
- Visit <http://www.fedconnect.net/> for additional information
- Grant applications sought from companies, trade groups, and other organizations that can develop regional sequestration technology training to facilitate transfer of knowledge and technologies required for site development, operations, and monitoring of commercial carbon capture and storage (CCS) projects

- *Activity 1: Implement an Organized Sponsorship Development Program*
 - Establish an advisory board
 - Establish a list of revenue generating products such as courses, lectures, and workshops to promote training from Activity 3
 - Develop and implement a marketing strategy

- *Activity 2: Development of Short Courses on CCS Technologies*
 - Identify topics for short courses for professionals and trades on engineering, scientific, legal, and regulatory issues
 - Work with experts to develop lectures and course materials
 - Identify and work with professional societies to register courses for Professional Development Units or Continuing Education Units

- *Activity 3: Regional Training & Other Activities through Outreach & Education*
 - Co-sponsor events and stand alone training workshops through extensive interaction with CO₂ sequestration associations, professional societies, state agencies, oil and gas operators, coal companies, CO₂ producers, and Regional Carbon Sequestration Partnerships
 - Organize and participate in CCS events
 - Develop and hold a training event for universities, colleges, and university-related research institutions

- *Activity 4: Perform Regional/Basin Technology Transfer Services*
 - Publish newsletter
 - Develop a training website
 - Provide quarterly email technology alerts to public
 - Coordinate and leverage regional efforts

- *Activity 5: Plan and Manage Recipient's Regional Program*
 - Coordinate and monitor regional CCS project performance

ARRA – Geothermal Technologies Program

FOA # DE-FOA-0000109

- Application due by July 22, 2009
- 3 year period of performance
- Eligible applicants:
 - Domestic entities, institutions of higher education, non-profit and for profit entities, state and local governments, Indian Tribes, and Tribal Energy Resource Development organizations
 - DOE Federally Funded Research and Development Centers, non-DOE FFRDCs, National Laboratories, and federal agencies are not eligible to apply as prime recipients, but can as sub-recipients, provided their scope and budget doesn't exceed 20% of the total project costs
 - Foreign participants are eligible sub-recipients, with exceptions
- *Topic Area 1: Validation of Innovative Exploration Technologies*
 - Goal: To reduce high level of risk during early stages of geothermal project development by funding the validation of innovative exploration activities to prioritize target sites for energy production
 - \$100 million expected available, with up to 40 awards
 - \$5 million ceiling
 - Cost share: 20% for phase 1 and 50% for phases 2 & 3; as low as 10% for phase 1 and 25% for phase 2 will be considered with justification
- *Topic Area 2: Geothermal Energy Production from (A) Low Temperature Resources, (B) Coproduced Fluids from Oil and Gas Wells, & (C) Geopressured Resources*
 - Goal: To demonstrate technical and economic feasibility of geothermal energy production from the non-conventional geothermal resources
 - Award sizes
 - (A) \$1.5 million award size; \$2 million ceiling
 - (B) \$1.5 million award size; \$2 million ceiling
 - (C) \$5 million award size; \$5 million award ceiling
 - Cost share: 50% of total project costs, but 25% will be considered with justification
- *Topic Area 3: Geothermal Data Development, Collection, & Maintenance*
 - Goal: To develop, collect, and maintain data for the entire U.S.
 - \$20 million expected available
 - \$20 million ceiling
 - No cost share required

ARRA – Hydroelectric Facility Modernization

FOA # DE-FOA-0000120

- Letter of intent due by July 22, 2009
- Application due August 20, 2009
- \$32 million expected to be available
- 2 year period of performance
- Visit <http://www.fedconnect.net/> for additional information

- Purpose: to develop, deploy, and test hydropower projects that would modernize the existing hydropower infrastructure and increase quantity and value of hydropower generation
- Focus on supporting deployment of turbines and control technologies to increase and maximize system generation at existing non-federal hydroelectric facilities
- Projects encouraged to be developed with a minimum of regulatory delay
- Should demonstrate that proposed projects increase generation by at least 5%
- Projects that require construction of new dams or diversions will not be considered

- *Subtopic A: Deployment of Hydropower*
 - Upgrades at projects > 50 MW
 - \$25 million ceiling
 - 1-5 awards expected
 - \$5 million - \$25 million awards

- *Subtopic B: Deployment of Hydropower*
 - Upgrades at projects < 50 MW
 - \$7 million ceiling
 - No floor
 - 1-5 awards
 - \$2 million - \$7 million awards

Clean Coal Power Initiative – Round 3

FOA # DE-FOA-0000042 (Amendment #005)

- Letter of intent due by July 24, 2009
- Application due August 24, 2009
- Applicants who accept selections from previous closing date of January 20, 2009, will not be considered under this re-opened FOA
- \$1.4 billion available
- Eligible applicants: All, except for other federal agencies, federally funded Research and Development Center contractors, and non-profits as described in Section 501(c)(4) of Internal Revenue Code of 1986, lobbying after December 31, 1995
- See <http://www.fedconnect.net/> for additional information.
- Objective: To demonstrate advanced coal-based technologies that capture or sequester, or put to beneficial use, CO₂ emissions
- Demonstrate at a commercial scale in a commercial setting technologies that:
 - Can achieve minimum of 50% CO₂ capture efficiency and make progress toward a target CO₂ efficiency of 90% in a gas stream containing at least 10% CO₂ by volume
 - Make progress toward capture and sequestration goal of less than 10% increase in cost of electricity for gasification systems and less than 35% for combustion and oxycombustion systems all as compared to 2008 practice
 - Capture and sequester or put to beneficial use a minimum of 300,000 tons per year of CO₂ emissions using a 30-day running average to determine if project successfully meets the CO₂ capture efficiency and the capture and sequestration or beneficial use rate requirements of FOA

ARRA – Solar Market Transformation – Solar Workforce Development

FOA # DE-FOA-0000078

- Application due by July 30, 2009
- See <http://www.fedconnect.net/> for additional information

- *Topic 2 – Solar Installer Instructor Training*
 - Goal: to promote increase in the quality and availability of instruction relating to installation of PV and SHC systems
 - 2 categories of funding
 - Regional Resource & Training Providers
 - Provide training and professional development to instructors who are creating or improving existing PV or SHC installation training courses
 - Awardees will be entities that currently offer high quality training in solar installation process and possess excellent instructors and training facilities
 - Categories:
 - 1A – PV only
 - 1B – SHC only
 - 1C – PV & SHC
 - Administration of the National Consortium for Solar Installer Instructor Training
 - Primary task: to create and manage operations of National Consortium for solar installer instructor training and to coordinate activities between itself, the National Consortium, and the Regional Resource and Training Providers

ARRA – High Penetration Solar Deployment

FOA # DE-FOA-0000085

- Application due by July 30, 2009
- See <http://www.fedconnect.net/> for additional information
- Must have a team approach: members of PV suppliers, integrators, and research institutions is preferred; one electric utility participation is required in all topic areas
- Cost share required, depending on topic area

- *Topic Area 1: Improved Modeling Tools Development*
 - 12 month phases, project period over 3 years
 - Development of PV performance models and their integration into existing distribution system planning and engineering analysis
 - Improved ability to model effects of high penetration solar electricity generation on electric distribution system
 - Approaches for enhanced PV performance models and should encompass new inverter models to better understand the performance of inverter designs for load flow analysis under normal and fault conditions as well as for short circuit current calculations

- *Topic Area 2: Field Verification of High-Penetration Levels of PV into the Distribution Grid*
 - 3-5 12 month phases
 - Must address modeling and approaches for field testing and validation of high-penetration levels of PV on prototypical distribution circuits and on new circuit configurations for optimized technical and economic performance

- *Topic Area 3: Modular Power Architecture*
 - One phase, 1 year performance period
 - Demonstrate that low-cost, easy-to-install modular and scalable power architecture can be deployed throughout the U.S.

- *Topic Area 4: Demonstration of PV and Energy Storage for Smart Grids*
 - One phase, 12 month completion
 - Integrate PV and energy storage into Advanced Metering Infrastructure (AMI) pilot programs

ARRA – Enhanced Geothermal Systems (EGS) Demonstration

FOA # DE-FOA-0000092

- Application due by July 30, 2009
- \$90 million available
- \$25 million ceiling
- 10 expected awards
- 50% cost share, but cost share as low as 25% could be considered
- Eligible applicants: Institutions of higher educations, non-profits, for-profit entities, state and local governments, Indian Tribes
- Geothermal Technologies Program (GTP) will facilitate research, development, and demonstration to establish geothermal energy as a major contributor for electricity generation
- Seeking projects in a variety of geologic formations to quantitatively demonstrate and validate stimulation techniques that successfully sustain sufficient fluid flow and heat extraction for 5-7 years that produce up to 50 MWe per year per project site/geothermal reservoir
- Applicant must provide sufficient legal documentation to demonstrate legal surface and subsurface rights necessary for stimulation and heat mining; applicant must also include NEPA EF1
- See <http://www.fedconnect.net/> for additional information

Rural Energy for America Program/Renewable Energy Systems/Energy Efficiency Improvement Program

- Application due by July 31, 2009
- Grant for up to 25% of total eligible costs; ceiling of \$500,000 for renewable energy systems and \$250,000 for energy efficient improvements
- Eligible applicants: All agricultural producers who gain 50% or more of gross income from any agricultural operations; rural small businesses and rural electric co-ops may also be eligible
- Eligible projects: Lighting retrofits, insulation, renewable energy projects from wind, solar, biomass, geothermal, hydro-power, and hydrogen based sources
- For more information, visit <http://www.rurdev.usda.gov/rbs/busp/9006grant.htm> or contact your local USDA Rural Development office.

Renewable Energy Feasibility Grants

- FOA # RDBCP-09-REAP-FEASIBILITY
- Application due by July 31, 2009
- Visit <http://www.rurdev.usda.gov/> for additional information
- Maximum \$50,000 or 25% of eligible project cost
- Must be submitted as stand-alone project
- Eligible applicants: Agricultural producers and rural small businesses
- Study for a renewable energy system:
 - For purchase, installation, expansion, or improvement of renewable energy system
 - Located in rural area
 - For technology that is pre-commercial or commercially available

ARRA – Carbon Capture & Sequestration from Industrial Sources and Innovative Concepts for Beneficial CO₂

FOA # DE-FOA-0000015

- Application due by August 7, 2009
- Eligible applicants: all, except other federal agencies, federally-funded Research & Development Center Contractors, and nonprofits, as described in 501(c)(4) of Internal Revenue Code of 1986 that engaged in lobbying activities after 12/31/95
- View <http://www.fedconnect.net/> for additional information.

- *Area 1: Large-Scale Industrial CCS Projects from Industrial Sources*
 - Demonstrate advanced technologies that capture and sequester carbon dioxide emissions from industrial sources into underground formations
 - Plants with electric power output greater than 50% of total energy output that operate on more than 55% coal as feedstock are ineligible

- *Area 2: Innovative Concepts for Beneficial CO₂ Use*
 - Demonstrate innovative concepts for beneficial CO₂ use, including CO₂ mineralization to carbonates directly through conversion of CO₂ in flue gas; use of CO₂ from power plants or industrial applications to grow algae/biomass; conversion of CO₂ to fuels and chemicals

ARRA – Solid State Lighting Core—Round IV

FOA # DE-FOA-0000082

- Application due by August 10, 2009
 - \$8 million expected to be available
 - 5-10 awards expected
 - DOE anticipates awards won't exceed \$600,000 (DOE share) per year for up to 3 years
 - No floor or ceiling
 - 1-3 year period of performance
 - Eligible applicants: all domestic entities but federal agencies, FFRDC contractors, and nonprofits as described in Section 501(c)(4) in IRC of 1986 that engaged in lobbying after 12/31/95
 - 20% cost share of total allowable cost of project
 - Visit <http://www.fedconnect.net/> for additional information about each area of interest
-
- *Area 1: Internal Quantum Efficiency (IQE)*
 - *Area 2: Phosphors and Conversion Materials*
 - *Area 3: Thermal Components Research*
 - *Area 4: System Reliability Methods*
 - *Area 5: Optical Component Manufacturers*
 - *Area 6: Novel Device Architectures*
 - *Area 7: High Efficiency OLED Materials*
 - *Area 8: OLED Electrodes*
 - *Area 9: OLED and Encapsulation Fabrication*

ARRA – Geologic Sequestration Training & Research

FOA # DE-FOA-0000032

- Application due by August 11, 2009
- \$12,930,000 expected to be available
 - \$7,930,000 / 26 awards for all universities, colleges, and college-affiliated research institutions
 - \$5 million / 16 awards for Historically Black Colleges and Universities (HBCU) and other minority institutions (OMI)
- \$100,000 floor; \$300,000 ceiling
- 3 year period of performance
- Cost share encouraged, but not required

- Objective: For universities, colleges, and college-affiliated research institutions and HBCUs and OMIs to provide training opportunities for graduate and undergraduate students that will provide human capital and skills required for implementing and deploying carbon capture and storage (CCS) technologies

- *Area of Interest 1: Simulation and Risk Assessment*
 - Development of models that include full coupling of geochemical processes, geomechanical processes, and heat processes with fluid flow; improved ability to forecast CO₂ behavior and ultimate fate in the subsurface; development and application of process-based risk assessment models for determining quantitative risks and predicting quantitative impacts at field project sites; development of probability distributions for different risk pathways

- *Area of Interest 2: Monitoring, Verification, and Accounting (MVA)*
 - Research in improving quantification, sensitivity, and resolution at low costs in MVA; extending capacity of MVA tool to quantify and resolve at high sensitivity over an extended region or spatial scale; increasing accountability of MVA protocols by improving sensitivity and increasing the application of current monitoring tools; improving the reliability of next-generation detection and sensing technologies; modifying and advancing CO₂ accounting protocols to demonstrate containment of CO₂ in the storage formations; quantifying the mass of sequestered CO₂ over its volume and as a function of time; investigating and improving technologies and protocols aimed at assessing the integrity of caprock formations; pinpointing potential leakage pathways
 - Technology development needed in geophysics, geochemistry, mitigation strategies

- *Area of Interest 3: Well Completion, Stimulation, & Integrity*
 - Research needed for reservoir stimulation for injection of CO₂, microhole drilling technologies utilized for low cost characterization opportunities, and to drill relatively shallow injection and or monitoring wells; casing and cements that perform effectively under CO₂ injection and storage; underbalanced drilling that may not damage the target formation
- *Area of Interest 4*
 - *Capture & Transport*
 - *Pipeline Transport*
 - Research in areas of pipeline transport that permits the safe and economical transport of CO₂ containing impurities in a secure and environmentally sound manner
 - *Pre-Combustion Capture*
 - Research in high temperature, high pressure membranes, high efficiency solvents, solid sorbents with commercially-relevant separation capacity and regenerability, and advanced separation devices for separating CO₂ or H₂ from syngas
 - *Post-Combustion Capture*
 - Research needed on post-combustion capture systems that use membranes, solvents, solid sorbents, or other approaches that enable efficient capture of CO₂ from flue gas
 - *Oxy-Combustion Capture*
 - Research to optimize oxy-combustion burners to that flue gas recirculation is minimized and boiler efficiency is maximized

ARRA – Resource Assessment & Interconnection Level Transmission Analysis & Planning

FOA # DE-FOA-0000068

- Application due by August 14, 2009
- Estimated funding up to \$60 million; approximately 6 awards
- Period of performance for 3-5 years
- Eligibility: All domestic entities except DOE/NNSA National Laboratory contractors, other federal agencies, non-DOE Federally Funded Research and Development Center contractors, and non-profits as described in 501(c)(4) of Internal Revenue Code of 1986 that engaged in lobbying after December 31, 1995.
- Visit <http://www.fedconnect.net/> for additional information
- Objective: to facilitate development or strengthening of capabilities in each of 3 interconnections serving lower 48 states, to prepare analyses of transmission requirements under a broad range of alternative futures and develop long term interconnection-wide transmission expansion plans

- *Topic A: Interconnection-Level Analysis & Planning*
 - Work to be performed must cover entire interconnection
 - Analyses and planning must be done in transparent manner, open to participation by state and federal officials, representatives from ISOs, RTOs, utilities, and relevant stakeholder bodies or NGOs
 - Must establish a multi-constituency steering group; 1/3 of members shall be state officials
 - Modeling tools and databases used and developed will be public, as will all events and meetings of study groups
 - Work performed shall give appropriate attention to merits of alternative configurations of the interconnection's Extra High Voltage (EHV) AC & DC network
 - Work shall give special attention to technological uncertainties that could have major effects on transmission requirements, such as the prospects for offshore wind generation, ocean energy, batteries for plug-in electric vehicles, on-site photovoltaic, carbon capture and sequestration, and advanced nuclear technologies
 - May include supporting analyses or topics such as variable generation integration studies, training of utility system planners and operators on variable generation and interconnection planning, reliability analyses of alternate large transmission configurations

- Long term transmission plans shall satisfy all reliability standards that have been approved by the Federal Energy Regulatory Commission. Must achieve the following objectives:
 - Consider all available technologies for electricity generation, energy storage, transmission, end-use energy efficiency, demand resources, and management of transmission and distribution-level facilities
 - Satisfy all state and federal requirements for renewable energy goals, energy efficiency goals, and goals for reducing greenhouse gases
 - Minimize overall long-term impacts of electricity supply activities on environment
 - Provide a path for efficient grid development
- First version of interconnection-level plan(s) to be delivered to DOE by June 30, 2011; updated plan to be delivered by June 30, 2013
- *Topic B: Cooperation Among States on Electric Resource Planning and Priorities*
 - Purpose: to facilitate dialogue and collaboration among states in respective interconnections and enable them to develop more consistent and coordinated input and guidance for regional and interconnection-level analyses and planning to be done under Topic A
 - 3 interconnections – Western, Eastern, & Texan; see FOA for Western & Texan information
 - *Cooperation Among States in Eastern Interconnection on Electric Resource Planning and Priorities*
 - Identify Eastern energy zones of interest for low or no carbon electricity generation
 - Propose studies on key issues related to reliable integration of variable renewable into Eastern interconnection, studies on availability of baseload renewable, and other low carbon resources
 - Develop other inputs as needed to go into the interconnection-level analyses prepared under Topic A
 - Provide insight into economic and environmental implications of the alternative electricity futures and their associated transmission requirements developed for the Eastern Interconnection under Topic A
 - Demonstrate (and develop if necessary) a process for reaching decisions and consensus appropriate for an interconnection-wide entity representing all states and provinces in Eastern Interconnection to participate in development and updating of long-term interconnection-level plan under Topic A

Advancing Public Health Protection through Water Infrastructure Sustainability

FOA # EPA-G2009-STAR-F1

- Application due by August 17, 2009
- Visit <http://www.epa.gov/> for additional information
- Up to \$6 million available, with awards ranging from \$300,000-\$600,000
- Eligible applicants: public and private non-profits, institutions of higher education, and hospitals in the United States, state and local governments
- Focus of grant: Improving the effectiveness of water infrastructure for protecting public health. Projects should demonstrate an integrated, multi-disciplinary approach that leads to advances in design, operation, and management of water infrastructure and should tie advances to public health protection in conjunction with improving water efficiency and reducing energy requirements

ARRA – Solid State Lighting Product Development – Round IV

FOA # DE-FOA-0000055

- Application due by August 17, 2009
- \$11.5 million expected to be available
- No floor or ceiling
- 3-7 awards expected
- Awards not expected to exceed \$900,000 (total DOE share per award) per year up to 2 years for areas 1-5
- Awards not expected to exceed \$400,000 (total DOE share per award) per year up to 2 years for area 6
- Eligible applicants: All domestic entities but other federal agencies, FFRDC contractors, and non-profits as described in Section 501(c)(4) of IRC of 1986 that engaged in lobbying after 12/31/95
- 20% cost share of total allowable cost

- Objective: Product development of general illumination SSL sources, luminaires, and enabling products
- Seeks to advance and promote the collaborative atmosphere of the L R&D SSL Program to identify potential product concepts and incorporate into product supportive technologies that are novel or that fill technology voids or that represent a technological advancement of SSL Products

- *Area of Interest 1: LED Luminaire(s) for General Illumination*
 - Shall include the LED light source(s), the driver and electronics, fixture or optics for control of light distribution
 - Designs shall minimize thermal resistance of the packaged LED or LED array to the luminaire and from the luminaire to the ambient environment
 - Emphasis given to efficiency, optical performance of the delivered light, and cost-effective designs

- *Area of Interest 2: OLED Luminaire(s) for General Illumination*
 - Candidate OLED (organic LED) luminaire designed to incorporate and take maximum benefit of using LEDs; efficacy, uniformly distributed emission, and unique form factor
 - Completely integrate all aspects of OLED-based luminaire design, including thermal, mechanical, optical, and electrical into a cost-effective, long life, energy saving, and marketable luminaire

- *Area 3: High Efficiency LEDs or Arrays*
 - Fund development of high efficiency, high flux, packaged LED devices, arrays, or modules, possibly incorporating multiple LEDs to be used for general illumination
 - Expected products to be developed: LED lamps with improved internal quantical efficiency (IQE) at wavelengths suitable for production of white light or LED arrays otherwise suitable for general illumination
- *Area 4: Phosphors*
 - Development of high efficiency phosphors or other materials, which optimize white light production in high brightness phosphor-converted light emitting diodes (pcLEDs), including spectrum, color uniformity, color maintenance, thermal sensitivity, and stability
 - Applicants will be required to demonstrate superior performance of proposed products using lab-scale demonstration with solid-state devices that are state of the art
- *Area 5: OLED Substrates*
 - Demonstration of an alternative substrate material that is low cost, exhibits reduced water, and oxygen permeability, and enables robust device operation at the high current densities required for SSL applications
 - Other considerations: processing and operational stability, weight, optical and barrier properties
- *Area 6: Off-Grid Applications*
 - Applications sought for novel off-grid products that use a combination of SSL, leading PV devices, and batteries, or any other combination of renewable energy and storage
 - Applications may include architectural façade lighting, remote outdoor lighting, marine applications, security illumination, emergency or portable lighting

ARRA – Advanced Energy Efficient Building Technologies

FOA # DE-FOA-0000115

- Application due by August 18, 2009
- \$25 million - \$75 million expected to be available
- 45-90 awards
- Awards in \$250,000 - \$2 million range (DOE share)
- 1-3 year period of performance
- Cost share:
 - 20% cost share for R&D projects
 - Will accept not less than 10% for academic institutions, non-profits, state, and local governments
 - 50% for demonstration and commercial application projects
 - Will accept not less than 25% for private industry recipients and not less than 10% for academic institutions and non-profits
- FOA's goals and priorities:
 - Science and discovery
 - Clean, secure energy
 - Economic prosperity
 - National security and legacy
 - Climate change
- Each application shall address a specific technical subtopic within a particular area of interest
- *Area of Interest 1: Advanced Building Control Strategies, Communications, and Information Technologies for Netzero Energy Buildings*
 - *Technical Subtopic 1.1: Advanced Building Control Strategies and Interfaces*
 - *Technical Subtopic 1.2: Advanced Whole-Building Control Systems and Information Technology*
 - *Technical Subtopic 1.3: Advanced Component Level Software and Hardware Development*
 - *Technical Subtopic 1.4: Energy Control and Optimization Algorithms and Tools*
- *Area of Interest 2: Analysis, Design, and Technical Tools*
 - *Technical Subtopic 2.1: Systems Engineering Tools for Very-Low Energy Buildings*
 - *Technical Subtopic 2.2: Scientific and Engineering Foundations for Designing and Operating Very Low Energy Buildings*
 - *Technical Subtopic 2.3: Misc. Electric Load (MEL) Prediction and Modeling*

- *Area of Interest 3: Building Envelope and Windows*
 - *Technical Subtopic 3.1: Window and Daylighting Technology Development*
 - *Technical Subtopic 3.2: Envelope Technology Development*
 - *Technical Subtopic 3.3: Building Envelope and Window Case Studies and Demonstration*
 - 50% cost share
 - *Technical Subtopic 3.4: Production Engineering for R5 and Higher Windows*
 - 50% cost share
- *Area of Interest 4: Residential and Commercial HVAC and Crosscutting Air Conditioning and Refrigeration Research*
 - *Technical Subtopic 4.1: Residential HVAC*
 - *Technical Subtopic 4.2: Commercial HVAC*
 - *Technical Subtopic 4.3: Crosscutting AC and Refrigeration Research*
- *Area of Interest 5: Water Heating, Residential, and Commercial Appliances and MELs*
 - *Technical Subtopic 5.1: Water Heating*
 - *Technical Subtopic 5.2: Residential Appliances*
 - *Technical Subtopic 5.3: Commercial Appliances*
 - *Technical Subtopic 5.4: Misc. Electric Load Reduction*
- *Area of Interest 6: Solar Heating and Cooling*
 - *Technical Subtopic 6.1: Residential Space Heating and Cooling (SHC) R&D*
 - *Technical Subtopic 6.2: Commercial SHC R&D*

ARRA – Solid State Lighting U.S. Manufacturing – Round I

FOA # DE-FOA-0000057

- Application due by August 24, 2009
- \$22 million expected to be available
- 5-10 awards expected
- Awards won't exceed \$4 million of DOE share (exclusive of recipient share)
- No floor or ceiling
- Cost share of 50% of total allowable cost of project
 - Will accept cost share of not less than 25% for private industry recipients and not less than 10% for academic institutions, non-profits, Indian tribes or Tribal Energy Resource Development Organizations, and state and local governments
- Eligibility: All domestic entities but other federal agencies, FFRDC contractors, and nonprofits as described in Section 501(c)(4) of IRC of 1986 that engaged in lobbying after 12/31/95
- See <http://www.fedconnect.net/> for additional information

- Objective: To achieve cost reduction of solid-state lighting for general illumination through improvements in manufacturing equipment, processes, or techniques
- Secondary objective: To maintain, in case of LEDs, or establish, in the case of organic light emitting diodes (OLEDs), the manufacturing and technology base within U.S.

- *Area of Interest 1: Epitaxial Growth Tools & Processes*
 - Improvements to epitaxial growth yield, materials, and electrical efficiency of growth process, growth repeatability, growth monitoring tools, modeling of the growth dynamics, automation of the growth process, and the cost of ownership of the crystal growth tool
 - Improvements shall not come at the expense of performance

- *Area of Interest 2: LED Chip Manufacturing*
 - Research sought to support manufacturing of low cost, high efficacy LED chips for general illumination
 - Objective: to reduce manufacturing costs through developments in semiconductor wafer processing equipment and process optimization
 - Research may include development of well-designed, standardized, highly throughput, highly automated, and reliable processing equipment
 - Equipment should incorporate flexible wafer handling to cope with different substrate types

- *Area of Interest 3: Automated LED Packaging*
 - Research to develop and demonstrate improved automated methods for the assembly and packing of phosphor-LED
 - Objective: to improve uniformity and consistency of product performance, reduce labor content per good unit produced, and improve capital productivity and throughput as measured against existing methods
 - Research should reduce or eliminate the need for product binning based on a distribution of performance parameters and demonstrate a significant impact on quality and cost of the packaged LEDs
 - Research may include robotic equipment design, process flow modeling, development of in-process automated test methods, product and material handling innovations, and improved design for manufacturing
- *Area 4: LED Luminaire Manufacturing*
 - Research to develop automated assembly and test equipment and efficient manufacturing processes for integrated luminaires
 - Focus on integrated luminaire that includes the LED light source(s), the driver, fixture, or optics for control of light distribution, and thermal management
 - Acceptable LED light sources are bare chips or packaged LED devices
 - Ideally, the proposed luminaires should be compatible with electronic dimming and may incorporate other smart controls
- *Area 5: Production of OLED Lighting Prototypes*
 - Research to pursue development of manufacturing processes and facilities to enable limited production of OLED devices with performance close to 2012 targets of SSL Multi-Year Program Plan (MYPP)
- *Area 6: Paths to High-Volume Manufacturing of OLED Devices*
 - Research for development of innovative manufacturing systems that are appropriate for OLED general-illumination lighting applications
 - Emphasis on system integration
 - Research shall include the identification and exploration of the critical fabrication integration issues

ARRA – Building America Energy Efficient Housing Partnerships

FOA # DE-FOA-0000099

- Application due by August 24, 2009
- \$2.5 million floor; no ceiling
- Eligible applicants: All domestic entities, but federal agencies, FFRDC contractors, and nonprofits as described in section 501(c)(4) of IRC of 1986 that engaged in lobbying after 12/31/95
- 20% cost share of total allowable cost of project
- Visit <http://www.fedconnect.net/> for additional information

- *Area of Interest 1: Building America Teams*
 - Industry teams to continue partnerships Building America has established to implement research and technical support programs for new and existing homes
 - \$10 million expected to be available
 - 2-3 awards expected
 - Up to \$5 million per year for up to 5 years
 - 5 year period of performance

- *Area of Interest 2: Building America Retrofit Teams*
 - Industry teams to stimulate the existing home retrofit market through research and technical support to increase the efficiency gains and reduce the cost of retrofits
 - \$15 million expected to be available
 - 2-4 awards expected
 - Up to \$5 million per two year award
 - 2 year period of performance

Topical Collaborations in Nuclear Theory

Funding Opportunity Announcement # DE-PS02-09ER09-24

- Application due by September 1, 2009
- See <http://www.grants.gov/> for additional information
- Topical collaborations are fixed-term, multi-institution collaborations established to investigate a specific topic in nuclear physics of special interest to the community
- See FOA for list of 17 areas of interest
- Anticipated \$6 million available over 5 years, starting in FY 2010
- Anticipated that 2-3 topical collaborations will be established for a period of no more than 5 years
- Collaboration expected to be supported at \$300,000-\$500,000 per year
- Cost sharing not required
- Joint funding and bridging positions are anticipated and will be considered favorably (universities, non-profit organizations, FFRDCs, including DOE National Laboratories)
- Eligible applicants: All domestic entities but federal agencies, FFRDC contactors, and non-profits as described in 501(c)(4) of Internal Revenue Code of 1986 that engaged in lobbying after 12/31/95

ARRA – Training Program Development for Commercial Building Equipment Technicians, Building Operators, and Energy Commissioning Agents/Auditors

FOA # DE-FOA-0000118

- Application due by September 1, 2009
- \$7.5 million expected to be available
- 10-30 awards expected
- No floor or ceiling
- 2 year period of performance
- Cost share not required but encouraged
- Eligible applicants: all entities except federal agencies, FFRDC contractors, and nonprofits as described in 501(c)(4) of IRC of 1986 that engaged in lobbying after 12/31/95
- Visit <http://www.fedconnect.net/> for additional information

- Objective: Projects that focus on developing training programs for building specialists
- FOA not intended for actual deployment of training program(s) or training personnel, but for development of training program(s) and commercial planning
- Applicant must propose an activity under each task:
 - Project management plan
 - Integration plan
 - Curricula deficiency/developmental needs analysis
 - Energy efficiency knowledge gaps in existing programs
 - Curricula development
 - Consolidated training material
 - Certification/accreditation plan
 - Commercialization and sustainability plan
- See FOA for training program requirements

- *Area 1: Training Programs for Commercial Building Equipment Technicians*
 - Applications sought for development of training programs for commercial building equipment technicians
 - For new and existing buildings
 - Include combination of classroom, online, and on-site training

- *Area 2: Training Programs for Commercial Building Operators*
 - Projects that will help achieve the goal of bringing existing buildings up to optimal energy performance level and ensuring that new buildings maintain the expected optimal level of performance

- *Area 3: Training Programs for Commercial Building Energy Commissioning Agents/Auditors*
 - Goal: that energy commissioning agents and auditors participating in programs learn how to best operate commercial buildings

ARRA – Energy Training Partnership Grants

FOA # SGA/DFA PY 08-18

- Application due by September 4, 2009
- Webinar on July 13 at <http://www.workforce3one.org/>
- \$100 million expected available for 20-30 projects at \$2-\$5 million/project
 - Approximately \$25 million of total funds available will be reserved for projects in communities impacted by automotive-related restructuring
- Visit <http://www.grants.gov/> for additional information
- Grant for training and placement services in energy efficiency and renewable energy industries for workers affected by national energy and environmental policy and individuals in need of updated training related to energy efficiency and renewable energy industries
- Focus on connecting target populations, including automobile and automobile-related industries affected by significant restructurings
- Training for careers in:
 - Energy efficient building, construction, and retrofit industries
 - Renewable electric power industry
 - Energy efficient and advanced drive train vehicle industry
 - Biofuels industry
 - Deconstruction and materials use industry
 - Energy efficiency assessment industry serving residential, commercial, or industrial sectors
 - Manufacturers that produce sustainable products using environmentally sustainable processes and materials
- Eligible entities:
 - Private non-profits that must apply in one of two categories:
 - National Labor Management Organizations with local networks
 - Examples: Training fund, training trust fund, or education trust fund with joint participation from employers and labor organizations on its executive board (or comparable governing body); a formalized agreement must be made between the employer and labor organization to operate joint program(s) in multiple sites across the country through state, local, or regional networks affiliated with the non-profit entity
 - Statewide or local non-profit partnerships
 - Local or statewide non-profits with joint partnership of labor organizations, employers, or industry organizations, Workforce Investment Boards
 - Must work with labor organizations, employers, and Workforce Investment Boards

- Must propose strategic partnerships with the following:
 - Labor organizations
 - Employers and industry organizations
 - Local workforce investment boards (which are ineligible applicants, but must be included in the application)
- Suggested partners include:
 - Education and training community
 - Federal partners such as DOL/ETA's Office of Apprenticeship
 - State partners, including State energy offices, weatherization offices, environmental agencies, utility boards
 - Faith-based and community organizations
- Partnerships must incorporate training activities that:
 - Address skills needed in targeted industries
 - Support participants' career advancement
 - Take place at times and locations that are convenient and easily accessible
 - As appropriate, include paid work experience activities that allow participants to learn occupational skills on the job
 - Integrate training activities with supportive services to help participants overcome barriers to employment, and as appropriate, result in pre-existing industry recognized degree or certificate
- Proposed activities include:
 - Occupational training, on-the-job and customized training, and developing registered apprenticeship and pre-apprenticeship programs in energy efficiency and renewable energy industries
 - Supportive services that will allow individuals to participate in training
- May propose projects using a small part of grant funds on activities that support worker training and placement such as:
 - Instructor education and/or staff training that will deliver and administer registered apprenticeship programs or other training and education programs that lead to employment
 - Where appropriate materials don't exist for the following, develop or modify:
 - Curricula for training
 - Apprenticeship guidelines
 - Industry-recognized degrees or certificates

ARRA – Systems Level Technology Development, Integration, and Demonstration for Efficient Class 8 Trucks (SuperTruck) and Advanced Technology Powertrains for Light-Duty Vehicles

FOA # DE-FOA-0000079

- Application due by September 9, 2009
- Eligible applicants: All, except federal agencies, FFRDC contractors, non-profits as described in 501(c)(4) of Internal Revenue Code of 1986 that engaged in lobbying after December 31, 1995
- See <http://www.fedconnect.net/> for additional information

- *Area 1: Systems Level Technology Development, Integration, and Demonstration for Efficient Class 8 Trucks*
 - Develop and demonstrate a 50% total increase in vehicle freight efficiency measured in ton-miles per gallon
 - At least 20% of improvement through the development of heavy duty diesel-engine capable of achieving 50% Brake Thermal Efficiency (BTE) on a dynamometer under a load representative of a level road at 65 mph
 - Identify key pathways to achieving long-term goal of developing a 55% efficient (BTE) heavy duty diesel engine; must meet 2010 emission standards and be commercially viable
 - \$90 million - \$160 million available; 3-5 expected awards
 - Ceiling: \$80 million (DOE share \$40 million)
 - Floor: \$40 million (DOE share \$20 million)

- *Area 2: Advanced Technology Powertrains for Light Duty Vehicles*
 - Goal: To accelerate development of a cost-competitive engine and powertrain systems for light-duty vehicles capable of attaining at least 25% fuel economy improvement for gasoline fueled vehicles and at least 40% fuel economy for diesel fueled vehicles while meeting future emissions standards
 - \$25 million - \$80 million available; 3-6 expected awards
 - Ceiling: \$30 million (DOE share \$15 million)
 - Floor: \$4 million (DOE share \$2 million)

ARRA – Pathways Out of Poverty

FOA # SGA/DFA PY 08-19

- Application due by September 29, 2009
- Webinar on July 14, 2009 at <http://www.workforce3one.org/>
- \$150 million expected available
 - \$3 million - \$8 million available for national grantees (see description below)
 - \$2 million - \$4 million available for local grantees
- Cost share is not required, but leveraged resources are strongly encouraged
- Visit <http://www.grants.gov/> for additional information
- 2 types of applicants to be funded:
 - National non-profits with networks of local affiliates or coalition members
 - Considered national if:
 - Deliver services through networks of local affiliates, coalition members, or other established partners like faith-based organizations
 - These partners have the ability to provide services in 4 or more states
 - Must serve communities located in at least 2 states, with a total of 3-7 communities served
 - Will be required to fund sub-grants or sub-contracts in each communities
 - Local entities
 - Considered local if:
 - Public organization such as community colleges or workforce development boards or private non-profits whose area is limited to a single sub-state area
 - Must propose a project that serves a single community
- Target population are workers affected by significant auto industry restructuring
- Grant to prepare those individuals for careers in:
 - Energy efficient building construction and retrofit industries
 - Renewable electric power industries
 - Energy efficient and advanced drive train vehicle industry
 - Biofuels
 - Deconstruction and materials use
 - Energy efficient assessment industry serving residential, commercial, or industrial sectors
 - Manufacturers that produce sustainable products using environmentally sustainable processes and materials
- Applicants may propose strategies that train individuals for the following occupations: transportation, green construction, environmental protection, sustainable agriculture (including healthy food production), forestry, and recycling and waste reduction

- Eligible applicants
 - Must have experience serving at least one of the following groups:
 - Unemployed individuals
 - High school dropouts
 - Individuals with criminal records
 - Disadvantaged individuals within areas of high poverty
- Must propose strategic partnerships (1 entity from each of the 5 categories)
 - Non-profits that have direct access to targeted populations
 - Public workforce investment system
 - Education and training community
 - Public and private employers and industry-related organizations
 - Labor organizations
- Strongly encouraged to involve:
 - Public housing agencies
 - Community Action Agencies implementing DOE's Weatherization Assistance Program
 - Organizations implementing ARRA funds that will create or support jobs in energy efficiency or renewable energy industries
 - National, state, or local foundations that focus on assisting participants served through project
 - State and local social service agencies that provide services to those individuals
- Allowable activities include:
 - Classroom occupational training
 - On-the-job training activities
 - Registered apprenticeship and pre-apprenticeship programs
 - Internships
 - Customized training
 - Basic skills – adult basic education, ESL, job readiness
 - Job search and placement services
 - Case management services

Green Your School

- NOT a federal government opportunity, but offered through the Student Conservation Association
- Visit <http://www.thesca.org/green-your-school/> for additional information
- 3 awards
- Projects must have been started after August 1, 2008
- Submission begins April 1, 2009
- Submission ends October 9, 2009
- Winners to be announced November 15, 2009
- Project requirements
 - Must be completed by a student
 - Has or will improve the environmental health of the school
 - Is sustainable
 - Is of high quality
 - Has engaged the community

Solar America Cities – Technical Outreach

FOA # DE-FOA-0000086

- Application due by October 15, 2009
- Expected \$10.5 million to be available, allocated in phases over five years
- \$6 million ceiling for phase 1; \$500,000 floor
- DOE expects one award, but may consider multiple awards
- Eligible applicants include all U.S. domestic entities except for FFRDC contractors, and non-profits as described in Internal Revenue Code of 1986 that engaged in lobbying activities after 12/31/95
- Cost sharing is not required
- Visit <http://www.fedconnect.net/> for additional information
- Suggested reading: *Solar Powering Your Community: A Guide for Local Governments* (<http://www.solaramericacities.energy.gov/resources>)
- DOE intends to select 1 or more partner organizations to provide a maximum number of local governments with actionable information that will enable them to accelerate solar energy deployment
- The recipient will proactively address the solar-related information needs of significant local markets and provide a mechanism by which local governments can receive and share information on solar energy
- A comprehensive approach is needed to include solar regulations, financial incentives, workforce training, and utility and community engagement
- Potential activities include:
 - Working to develop sets of solar-related information most relevant to local governments
 - Provide strategic information on solar energy to local governments and stakeholders
 - Create effective forums for sharing lessons and best practices developed by DOE's 25 Solar America Cities with other local governments
 - Targeted presentations for local governments